| | |
|---|---|
| Form | Deviation Request Form |
| Title | Technical Procedure for IBIS/NIBIN |
| Laboratory Location | Lab-wide |
| Discipline/Section | Firearms |
| A. Requested deviation applies to: | Technical Procedure for IBIS/NIBIN Sections 5.1, 5.3, 5.5.1.3, 5.5.1.4, 5.5.3, 5.5.3.3, and 5.9.4.1 |
| B. Requested deviation: | 5.1<br><br>Replace with: For the remainder of this procedure, the term "cartridge case" will be used to refer to both fired cartridge cases and fired shotshells.<br><br>Add 5.3.4<br><br>The NCSCL will refer to the MROS for what is required for entry into IBIS/NIBIN. However, based on case management needs and management approval, the NIBIN Technician or Forensic Scientist may enter more than what is required by the MROS into IBIS/NIBIN<br><br>5.5.1.3 and 5.5.1.4<br><br>Replace "fired cartridge case or shotshells" with "cartridge cases"<br><br>5.5.3 and 5.5.3.3<br><br>Replace "cartridge cases and/or shotshell cases" with "cartridge cases"<br><br>Add 5.6.2.4<br><br>The NCSCL will enter the following, items that were fired in semi-automatic pistols including .22 caliber and larger; .223 and 7.62 semi-automatic rifles, 12 gauge pump-action or semi-automatic shotguns and long guns that use handgun ammunition.<br><br>Add 5.6.2.5<br><br>The NCSCL will not enter items if more than one (1) year has passed between evidence recovery and submission to the NCSCL without prior approval.<br><br>5.9.4.1<br><br>Replace with: In the event the minimum required operative procedures are not met following an assessment from the ATF, corrective action |

| | |
|---|---|
| | or improvements shall be conducted as provided in the Laboratory's Procedure for Corrective Action and Procedure for Risk Management. |
| C. Necessity for the deviation: | This will make the wording in the procedure more uniform, clarifies what is required to be entered into NIBIN based on the MROS, and clarifies some of the information on when a corrective action or improvement is needed. |
| D: Technical Review and Authorization | |
| Technical Authorization | Yes - Authorized |
| Technical Authorizer | ☐ Slish, Jennifer |
| Duration | 1 year / next procedure revision |
| E: Quality Assurance Authorization | |
| Acceptable within general QA guidelines and good laboratory practice? | Yes |
| Significant negative impact to Crime Laboratory Quality System? | No |
| QA Authorization | Yes - Authorized |
| QA Authorizer | ☐ Suggs, Timothy |
| Effective Date: | 6/14/2024 |

Version: 5.0
Created at 6/20/2023 4:08 PM by ☐ Quirindongo, Dana
Last modified at 6/12/2024 3:41 PM by ☐ Suggs, Timothy

Close

# Technical Procedure for IBIS/NIBIN

**1.0 Purpose** – To outline the procedures for the Integrated Ballistics Identification System (IBIS) and the National Integrated Ballistic Information Network (NIBIN).

**2.0 Scope** – This procedure applies to all IBIS/NIBIN cases submitted to the laboratory.

**3.0 Definitions**

- **BRASSTRAX™ Acquisition Station –** acquisition station developed by Forensic Technology that captures highly detailed images of cartridge cases, to include firing pin impressions on the primer, breech face, extractor and ejector markings. Also referred to as 'Trax' and 'Cartridge Case Acquisition Station'.
- **Bureau of Alcohol. Tobacco, Firearms and Explosives (ATF) –** Federal agency responsible for administering the NIBIN network. The ATF also coordinates training and protocols for the use of NIBIN and its associated technology (IBIS).
- **Caliber (Ammunition)**–A numerical term, without the decimal point, included in a cartridge name to indicate the nominal bullet diameter.
- **Caliber (Firearm)**–The approximate diameter of the circle formed by the tops of the lands of a rifled barrel.
- **Cartridge**–A single unit of ammunition consisting of the case, primer, and propellant with one or more projectile(s). Also applies to a shotshell
- **Cartridge case**–The container for all the other components which comprise a cartridge.
- **Centerfire**–Any cartridge that has its primer central to the axis in the head of the case.
- **Class characteristics**–Measurable features of a specimen which indicate a restricted group source. They result from design factors, and are therefore determined prior to manufacture.
- **Comparison microscope**–Essentially two microscopes connected to an optical bridge which allows the viewer to observe two objects simultaneously with the same degree of magnification.
- **Correlation** – An automatic process whereby two images are compared to determine their similarity.
- **Firearm**–An assembly of a barrel and action from which a projectile(s) is propelled by products of combustion.
- **Forensic Technology (FT)** – a division of Ultra Electronics who develops, manufactures, services, and provides training for the IBIS system.
- **Gauge**–A term used in the identification of a shotgun bore. The number of round lead balls of bore diameter that equal one pound. Thus, 12 gauge is the diameter of a round lead ball weighing 1/12 pound.
- **Headstamp**–Numerals, letters and symbols (or a combination thereof) stamped into the head of a cartridge case or shotshell to identify the manufacturer, caliber, gauge, or give additional information.
- **Integrated Ballistics Identification System (IBIS)** –a local automated ballistics imaging and analysis system that populates a computerized database of images from cartridge cases and firearm test fires to identify possible associations between crimes. .
- **Magazine**–A container for cartridges which has a spring and follower to feed cartridges into the chamber of a firearm.
- **MATCHPOINT™** – the analysis component of the IBIS system designed to allow a user to view automatically-generated system results, and to provide tools to assist with determining potential leads from those results.
- **Minimum Required Operating Standards (MROS)** – the ATF-developed and implemented minimum operating requirements that sites accessing and utilizing NIBIN shall follow to ensure the quality and integrity of the data shared on the network.
- **National Integrated Ballistic Information Network (NIBIN)** – a national program managed by the Bureau of Alcohol, Tobacco, Firearms, and Explosives that automates the imaging of the unique identifiers of cartridge cases and test fires for comparison across a national network of participating sites.

- **NIBIN National Correlation and Training Center (NNCTC)** – a division of the ATF that provides NIBIN image analysis and correlation services to federal, state and local law enforcement.
- **NIBIN Program Administrator** – an individual the NIBIN Site has designated to communicate with all parties (i.e. submitting law enforcement agencies, ATF, etc.), involved in the NIBIN process, as well as to oversee operations of the site.
- **NIBIN User** – a technician and/or firearms examiner trained by ATF, Forensic Technology, and/or a NIBIN Authorized Trainer to perform acquisitions and/or correlation reviews of ballistic images on the national network.
- **Rimfire**–A flange-headed cartridge containing the priming mixture inside the rim cavity.
- **Shotshell**–A cartridge containing projectile(s) designed to be fired in a shotgun. The cartridge body may be metal, plastic, or paper.
- **Stereomicroscope**–An optical instrument which provides three dimensional viewing of an object through paired objectives and eyepieces. Some models share a common main objective.
- **Triage** – assessing cartridge cases and shotshells to determine the best representative sample from a group of cartridge cases or shotshells having similar firearm-produced markings for NIBIN entry.
- **Validation Tasks** – automatic, self-diagnostic tests and automatic adjustments performed by the IBIS BRASSTRAX system.

## 4.0 Equipment, Materials, and Reagents

- BRASSTRAX™
- MATCHPOINT™
- Stereomicroscope
- Comparison Microscope
- Personal protective equipment
- Cotton-tipped swabs
- Cleaning solutions such as Terg-A-Zyme, Hibiclens, ethanol, acetone, and cartridge case cleaner (5%v/v dilution of Birchwood Casey Concentrate in water)
- Vertical Water Tank
- Horizontal water tank
- Firearm Reference Collection
- Firearms Reference Table (Royal Canadian Mounted Police)
- NIBIN envelopes
- Evidence tags
- Plastic/nylon ties
- Remote firing device

## 5.0 Procedure

**5.1** For the remainder of this procedure, the term “cartridge case” will be used to refer to both cartridge cases and shotshells.

**5.2** Cartridge cases submitted for IBIS/NIBIN-only cases are not required to be labeled on the cartridge case itself. The proximal container may be labeled instead.

**5.3** Submission policies

**5.3.1** All evidence shall be submitted in accordance with Laboratory policy.

**5.3.2** Individual characteristic database samples (i.e., non-evidence test-fired cartridge cases created by a submitting agency) shall be submitted on the NIBIN Test-Fire Submission Form. All mandatory fields shall be completed. Multiple cases may be submitted on one NIBIN Test-Fires Submission Form.

**5.3.3** A firearm submitted as an "IBIS/NIBIN only" case that does not function and cannot be quickly repaired shall not be test fired for IBIS/NIBIN entry.

**5.4** Firearms for IBIS/NIBIN

**5.4.1** Item Preparation

**5.4.1.1** Prior to analysis, ensure that any additional examinations (e.g., Forensic Biology, Trace, Latent) that must be completed before analysis by the Firearms Section have been completed.

**5.4.1.2** Thoroughly examine all firearms to ensure they are unloaded and safe.

**5.4.1.3** Visually inspect the firearm for possible trace evidence such as hair, fibers, wood, etc. Note the location on the firearm where the trace material was found. Carefully remove the material and place in a container suitable for return to the submitting agency or submission to the appropriate laboratory section for further examination.

**5.4.1.3.1** If the trace material is not to be retained, indicate as such in the case notes.

**5.4.1.4** Firearms that are contaminated with blood, bloody matter, or other biological material shall be evaluated for the need to preserve biological material. Upon evaluation and preservation, if required, the firearm may be cleaned with a soft bristle brush and a disinfectant such as Terg-A-Zyme, Hibiclens, and/or ethanol.

**5.4.1.5** Firearms may generally be cleaned with a cotton-tipped swab saturated with ethanol or acetone. Firearms may also be cleaned in an ultrasonic cleaner.

**5.4.1.6** Mark all evidence or attached tag for identification.

**5.4.2** Safe Firearm Handling

- Treat all firearms as if they were loaded.
- Always point firearms in safe direction.
- Use an appropriate backstop or bullet trap.
- Never load live rounds in a firearm in an office or examination room.

**5.4.3** Physical Characteristics

**5.4.3.1** The features that shall be noted in the Item description, if applicable, include:

- Make/Manufacturer
- Model
- Serial Number

- Firearm type
- Caliber/gauge

**5.4.3.1.1** The Firearm Reference Collection, the Royal Canadian Mounted Police Firearms Reference Table, firearm industry contacts, and/or the ATF Serial Number Structure Guide may be used in an attempt to determine information such as make/manufacturer, importer, model, serial number location and structure, caliber, etc., that cannot be located on the evidence firearm.

**5.4.3.1.2** If a magazine submitted with the firearm does not fit the firearm, it shall be noted.

**5.4.4** Pre-Test Firing Safety Examination

**5.4.4.1** A visual examination of the firearm prior to test firing is needed to determine:

- The presence of an obstruction in the bore
- Any signs of cracks or weaknesses in the frame, slide, cylinder, or barrel
- The overall mechanism functioning
- The type of ammunition appropriate for use with the firearm
- The need to test fire the firearm remotely

**5.4.4.1.1** Note any issues including safety issues.

**5.4.4.2** Before test-firing, all autoloading firearms shall be tested to ensure that they have not been altered to fire as automatic firearms either intentionally or through wear or damage.

**5.4.5** Test Firing

**5.4.5.1** Ensure firearm is safe to fire as described above.

**5.4.5.2** Select test fire location (range, water tank)

**5.4.5.3** Activate safety measures

**5.4.5.3.1** If available, ensure that the in-use warning lights of the indoor shooting area are activated during test firing.

**5.4.5.3.2** Don proper safety equipment. Always wear appropriate eye and ear protection.

**5.4.5.4** Load ammunition

**5.4.5.4.1** Use ammunition designed for the firearm

**5.4.5.4.2** There are exceptions to the above when ammunition components have been fired in a firearm that was not designed to fire them. (e.g. 16 gauge shotshell in a 12 gauge shotgun)

**5.4.5.5** Test fire the firearm

**5.4.5.5.1** Firearms must be fired downrange in the indoor range or into a water tank.

**5.4.5.5.2** Use the remote firing device if necessary.

**5.4.5.5.3** Number of test fires

**5.4.5.5.3.1** Only one test fire is required for entry into IBIS/NIBIN.

**5.4.5.5.3.2** Additional test fires can be created if the Examiner/ Technician deems it necessary

**5.4.5.5.3.2.1** If more than one test fire is created the reason shall be noted.

**5.4.5.5.3.3** Created test fires shall not be used for any further examinations.

**5.4.5.5.4** Recover the cartridge case after firing. Bullets/projectiles do not need to be recovered/retained.

**5.4.5.6** Package test fires. Packaging shall include, at a minimum, the following:

- State Crime Laboratory number or the last significate numbers
- Item number (exhibit number as entered into the system)
- Examiner initials

**5.4.5.7** Enter test fires into IBIS/NIBIN as described below.

**5.4.5.7.1** Place the NIBIN entry sticker (or another form of labeling) on the packaging for those test fires entered.

**5.4.5.7.2** The entered test fire shall be labeled with the exhibit number as entered into the system

**5.4.5.8** Return items to the submitting agency.

**5.4.5.8.1** Test fires created shall be returned with the firearm from which the test was created.

**5.4.5.8.2** Make the firearm safe by blocking the action with a plastic or nylon band/tie before packaging.

**5.5** Cartridge cases for IBIS/NIBIN

**5.5.1** Item Preparation

**5.5.1.1** Prior to analysis, ensure that any additional examinations (e.g., Forensic Biology, Trace, Latent) that must be completed before analysis by the Firearms Section have been completed.

**5.5.1.2** Visually inspect the item for possible trace evidence such as hair, fibers, wood, etc. Note the location on the item where the trace material was found. Carefully remove the material and place in a container suitable for return to the submitting agency or submission to the appropriate laboratory section for further examination.

**5.5.1.2.1** If the trace material is not to be retained, indicate as such in the case notes.

**5.5.1.3** Fired cartridge cases or shotshells contaminated with blood, bloody matter, or other biological material shall be evaluated for the need to preserve biological material. Upon evaluation and preservation, if required, the fired cartridge cases or shotshells may be cleaned with a soft bristle brush and a disinfectant such as Terg-A-Zyme, Hibiclens, and/or ethanol.

**5.5.1.4** Fired cartridge cases or shotshells may generally be cleaned with a cotton-tipped swab saturated with ethanol, acetone, and/or cartridge case cleaner.

**5.5.1.4.1** If cartridge case cleaner is used, remove any residual solution with water.

**5.5.1.5** All evidence and test fired cartridge cases shall be screened for damage to determine suitability for entry into IBIS/NIBIN.

**5.5.2** Physical Characteristics

**5.5.2.1** The features that shall be noted in the Item description, if applicable, include:

- Manufacturer
- Caliber/Gauge

**5.5.3** For cases in which two or more cartridge cases and/or shotshell cases are submitted:

**5.5.3.1** Submitted evidence will be screened and grouped based on similar characteristics, including:

- Caliber
- Type of detail present (e.g., Linear, Granular, Circular, etc.)
- Other class characteristics

**5.5.3.2** If there is more than one cartridge case suitable for entry into IBIS/NIBIN, the examiner shall select the one bearing the most pronounced or the clearest detail for entry. More than one may be selected for entry if different characteristics are found to be more pronounced on different items.

**5.5.3.2.1** Any information pertaining to the selection of particular cartridge cases for entry into IBIS/NIBIN shall be documented in the case notes.

**5.5.3.3** At least one cartridge case and/or shotshell case representing each determined group shall be acquired.

**5.6** IBIS/NIBIN entry and correlations

**5.6.1** Only certified IBIS/NIBIN users are permitted to operate the BRASSTRAX and MATCHPOINT systems.

**5.6.2** IBIS/NIBIN entries shall be made in accordance with the procedures and guidelines established through ATF-approved NIBIN User Training Programs, MROS, and the BRASSTRAX User Guide. Entries shall also be made in accordance with any IBIS/NIBIN training performed within the Firearms Section of the North Carolina State Crime Laboratory (NCSCL). Copies of the BRASSTRAX User Guide are provided by FT on the BRASSTRAX system and MROS information is maintained on SharePoint.

**5.6.2.1** Each item submitted on a NIBIN Test-Fires Submission Form is uniquely identified in IBIS/NIBIN by the submitting agency identifier code, submitting agency case number, and the submitting agency item number.

**5.6.2.2** Evidence items are uniquely identified in IBIS/NIBIN by the NCSCL case number and the NCSCL designated item number.

**5.6.2.3** If an evidence cartridge case has been identified to a firearm for which a test fire shall be entered, the evidence cartridge case may also be entered into IBIS/NIBIN. This determination will be made by the forensic scientist based upon his/her training and experience.

**5.6.3** Correlations

**5.6.3.1** Cartridge case entries may be correlated outside the default correlation region upon request if there is an investigative lead that points to a specific location.

**5.6.3.2** Correlations are performed for the NCSCL by the NIBIN National Correlation and Training Center (NNCTC).

**5.6.3.3** Correlations may also be performed by NCSCL IBIS/NIBIN users that have completed an ATF-approved correlation training program or have been authorized by the ATF to perform correlations. Correlations performed by NCSCL NIBIN users may be performed on an as-needed basis and shall be conducted in accordance with the ATF's MROS guidelines.

**5.7** Notifications of Entry and NIBIN leads

**5.7.1** Entry notifications to the submitting agency are accomplished in one of the following ways:

**5.7.1.1** Via NIBIN Entry Report.

**5.7.1.2** By checking the "Entered Y/N" boxes on the NIBIN Test-Fire Submission Form.

**5.7.1.2.1** Upon completion of entry, either the original or a copy of the NIBIN Test-Fire Submission Form is returned to the agency.

**5.7.1.2.2** Either the original or a copy of the NIBIN Test-Fire Submission Form is filed in the IBIS room or maintained electronically.

**5.7.2** For cases where the entry was correlated by the NNCTC, the NNCTC is responsible for submitting NIBIN lead notifications to the affected agencies. The NCSCL may also request a copy of the lead notification on a case-by-case basis.

**5.7.3** Items correlated by NCSCL NIBIN users

**5.7.3.1** For evidence items, notification of a NIBIN lead can be accomplished in one of the following ways:

**5.7.3.1.1** If the correlation is completed prior to the initial publication of the case:

**5.7.3.1.1.1** Via laboratory report.

**5.7.3.1.1.2** Via NIBIN Entry Report.

**5.7.3.1.2** If the correlation is not completed prior to the initial publication of the case:

**5.7.3.1.2.1** By disseminating a copy of the lead notification via email to the contact associated with each case referenced in the notification.

**5.7.3.1.2.1.1** Both the central IBIS email account and the NIBIN Program Administrator shall be attached to the lead notification email.

**5.7.3.1.2.1.2** A copy of the IBIS/NIBIN system lead notification and email lead correspondence shall be imported into the FA case file of each case referenced in the notification and the case record republished.

**5.7.3.2** For individual characteristics database samples (test fires), the lead notification shall be disseminated via email to the contact associated with each case referenced in the notification.

**5.7.3.2.1** Both the central IBIS email account and the NIBIN Program Administrator shall be attached to the lead notification email.

**5.7.4** Report wording

The suggested report wording listed below may be modified at the forensic scientist's or NIBIN user's discretion to reflect more accurately the conclusions. Any such modifications shall be reviewed and approved with the technical review.

For all reports where there has been an IBIS/NIBIN entry subject to external correlation, the following wording shall be included: "The Integrated Ballistics Identification System (IBIS) is a local automated ballistics imaging and analysis system that populates a computerized database of images from cartridge cases and firearm test fires to identify possible associations between crimes. The National Integrated Ballistic Information Network (NIBIN) is a national program managed by the Bureau of Alcohol, Tobacco, Firearms, and Explosives that automates the imaging of the unique identifiers of cartridge cases and test fires for comparison across a national network of participating Sites.

Unless otherwise requested, items entered into IBIS/NIBIN by this laboratory are automatically searched against other entries made in North Carolina, South Carolina, Virginia, Georgia, Tennessee, and Kentucky. Your agency will be notified by the NIBIN National Correlation and Training Center (NNCTC) if any forensic leads are developed."

**5.7.4.1** Items not entered

**5.7.4.1.1** Inoperable Firearm

- "The Item 1 firearm could not be test fired, therefore no test fires were entered into NIBIN"

**5.7.4.1.2** Evidence Cartridge Case Not Entered, Unsuitable

- "Item 2 was unsuitable for entry into NIBIN."

**5.5.4.1.3** Bullet/Cartridges submitted for entry

- "Item 1 was not entered into NIBIN. The IBIS/NIBIN System at the North Carolina State Crime Laboratory is designed for entry of cartridge cases only."

**5.7.4.2** Items Entered

**5.7.4.2.1** Test Fired Cartridge Case Entered

- "Any item(s) test fired (was/were) visually and/or microscopically examined. Cartridge case(s) test fired in Item(s) 1 (was/were) entered into NIBIN."

**5.7.4.2.2** Evidence Cartridge Case Entered

- "Submitted item(s) (was/were) visually and/or microscopically examined. The Item(s) 1 cartridge case(s) (was/were) entered into NIBIN."

**5.7.4.2.3** NIBIN lead developed by NCSCL personnel

- "Item 3 was entered into NIBIN.

Based on the acquisition and correlation review of digital images by the North Carolina State Crime Laboratory (NCSCL), a NIBIN investigative lead was developed. NIBIN has indicated a possible association between the following cases:

NCSCL case R201199999 (Sheriff's Office Case 11-88888)
NCSCL case R201299999 (PD Case 12-88888)

THIS INFORMATION IS TO BE USED ONLY AS AN INVESTIGATIVE LEAD AS THIS POSSIBLE ASSOCIATION HAS NOT BEEN CONFIRMED. If confirmation is required for court proceedings the evidence in these cases should be resubmitted under the original NCSCL case numbers for microscopic comparison."

**5.7.4.2.4** Correlation performed by NCSCL personnel with negative results

- "Item 1 was entered into NIBIN. At this time, no NIBIN investigative leads were developed. Your agency will be notified if any forensic lead are developed in the future."

**5.8** NIBIN Program Administrator

**5.8.1** The NIBIN Program Administrator shall meet the following qualifications:

**5.8.1.1** Be a full-time NCSCL employee. A full-time, on-site contractor with employee privileges may also qualify.

**5.8.1.2** Be a qualified IBIS/NIBIN user that has completed acquisition training.

**5.8.2** The NIBIN Program Administrator shall have the following responsibilities:

**5.8.2.1** Have the authority to initiate, suspend, and resume IBIS/NIBIN operations for both sites or an individual.

**5.8.2.2** Evaluate and document approval of all methods used by both sites and to propose new or modified procedures as needed.

**5.8.2.3** Review the training records for newly qualified IBIS/NIBIN users and approve their qualifications prior to performing NIBIN acquisitions or correlations, and to document such review.

**5.8.2.4** Coordinate with audit personnel for IBIS/NIBIN site audits.

In the event that the NIBIN Program Administrator position of a site is vacated and there is no individual at the site who meets the requirements of this standard and can serve as a NIBIN Program Administrator, the site shall immediately contact the ATF and submit their contingency plan within 14 days to the ATF for its approval. Work in progress by the site may be completed during this 14-day period, but no new casework shall be started until the plan is approved by the ATF.

**5.9** IBIS/NIBIN Quality Control

**5.9.1** All equipment directly related to IBIS, including BRASSTRAX, must be operated according to requirements set forth by the ATF and FT. As outlined in the BRASSTRAX User Guide, the BRASSTRAX acquisition unit regularly executes validation tasks as part of its normal operation. The automatic validation tasks ensure proper maintenance of the hardware components of the acquisition unit, as well as to ensure the unit is obtaining high-quality images for entry.

**5.9.2** Validation Task Critical Error or Warning Message Received

**5.9.2.1** If a component of the BRASSTRAX system is not performing correctly and was not automatically adjusted during a validation task, a critical error message (X) or warning message (!) will appear.

**5.9.2.2** If a IBIS/NIBIN User receives a critical error or warning message, the user shall either:

- Follow steps outlined in the BRASSTRAX User Guide to perform the necessary tune-up or adjustment of that component until resolved,
- Notify a NIBIN Technician or NIBIN Program Administrator, who may resolve the message by performing a system adjustment manually, or
- Contact FT directly for assistance in resolving the error or warning message.

**5.9.2.3** FT may be called at any time there is a system or component problem that a IBIS/NIBIN User is unable or not authorized to resolve.

**5.9.3** Record of System Validation Tasks

**5.9.3.1** The record of validation tasks made by the BRASSTRAX system is maintained electronically on the BRASSTRAX system. The maintenance of records is performed automatically by the system. The history of validation tasks made to the BRASSTRAX unit cannot be modified or deleted from the system.

**5.9.3.1.1** A copy shall be added to FA annually.

**5.9.4** MROS Adherence

**5.9.4.1** In the event the minimum required operating procedures are not met, corrective actions or improvements, if warranted, shall be conducted as provided in the Laboratory's Procedure for Corrective Action and Procedure for Risk Management.

**5.9.4.1.1** Any corrective actions shall not be implemented without the documented approval of the NIBIN Program Administrator.

**5.10** IBIS System Interruption Log

**5.10.1** Should the BRASSTRAX system be down for a lengthy amount of time, the interruption shall be recorded using the IBIS System Interruption Log located on SharePoint.

**5.11** IBIS Computer Security and Incident Response Procedures

**5.11.1** All possible precautions shall be exercised to prevent any unauthorized access of the IBIS system and any damage to the system that could affect the network. Access to the Network is limited to individuals who have current IBIS Certification through the ATF.

**5.11.2** The ATF and/or FT shall be notified of any security issues or problems. The NIBIN Program Administrator shall be responsible for following up with the ATF and/or FT regarding any security incidents.

**5.12 Standards and Controls** – N/A

**5.13 Calibration** – N/A

**~~5.14~~ Maintenance** – N/A

**5.15 Sampling** – N/A

**5.16 Calculations** – N/A

**5.17 Uncertainty of Measurement** – N/A

## 6.0 Limitations – N/A

## 7.0 Safety

- Examinations performed in the Firearms Section are inherently dangerous. These procedures involve hazardous chemicals, firearms, and ammunition. All hazardous procedures shall be performed in compliance with the State Crime Laboratory Safety Manual.
- If the examination involves a biohazard, the Forensic Scientist shall use proper personal protective equipment, such as eye protection, a lab coat, and/or gloves.
- When firearms are test fired, the Forensic Scientist shall wear ballistic eye protection and hearing protection. All ventilation systems shall be activated.
- Lead is toxic.
- Refer to Appendix 1 for chemical hygiene and safety precautions for Extremely Hazardous and Particularly Hazardous Substances

## 8.0 References

- Association of Firearm and Tool Mark Examiners. *Procedures Manual*. 2001.
- NIBIN User Training Guide
- BRASSTRAX User Guide
- Minimum Required Operating Standards for NIBIN sites

## 9.0 Records

- FA Worksheets
- System Validation Log
- IBIS System Interruption Log
- NIBIN Test Fire Submission Form

## 10.0 Attachments

- **Appendix 1 –** Chemical Hygiene and Safety Precautions for Extremely Hazardous and Particularly Hazardous Substances

| **Revision History** | | |
|---|---|---|
| Effective Date | Version Number | Reason |
| 07/29/2022 | 1 | Original Documented created from the Technical Procedure for the use of IBIS and NIBIN |

**Appendix 1 – Chemical Hygiene and Safety Precautions for Extremely Hazardous and Particularly Hazardous Substances**

| **Lead**<br>**DANGER: PARTICULARLY HAZARDOUS SUBSTANCE** | |
|---|---|
|  | **HEALTH**<br>**FLAMMABILITY**<br>**REACTIVITY** |
| **Detection of Release** | Assume release during firing of firearms. |
| **Signs/Symptoms of Exposure** | 1) Short term (acute) overexposure. Lead is a potent, systemic poison that serves no known useful function once absorbed by your body. Taken in large enough doses, lead can kill you in a matter of days. A condition affecting the brain called acute encephalopathy may arise which develops quickly to seizures, coma, and death from cardiorespiratory arrest. A short term dose of lead can lead to acute encephalopathy. Short term occupational exposures of this magnitude are highly unusual, but not impossible. Similar forms of encephalopathy may, however, arise from extended, chronic exposure to lower doses of lead. There is no sharp dividing line between rapidly developing acute effects of lead, and chronic effects which take longer to acquire. Lead adversely affects numerous body systems, and causes forms of health impairment and disease which arise after periods of exposure as short as days or as long as several years.<br><br>(2) Long-term (chronic) overexposure. Chronic overexposure to lead may result in severe damage to your blood-forming, nervous, urinary and reproductive systems. Some common symptoms of chronic overexposure include loss of appetite, metallic taste in the mouth, anxiety, constipation, nausea, pallor, excessive tiredness, weakness, insomnia, headache, nervous irritability, muscle and joint pain or soreness, fine tremors, numbness, dizziness, hyperactivity and colic. In lead colic there may be severe abdominal pain. |
| **PEL** | ACGIH TWA 0.05mg/m^3 of air |
| **Associated Hazards** | Carcinogenic. Reproductive toxin. Specific organ toxicity. Respiratory hazard. |
| **Controls** | Provide adequate general and local exhaust ventilation. Ensure good ventilation of the work station. Wear protective goggles, gloves. If appropriate, wear respiratory protection. |
| **Safe handling, storage, disposal** | Do not discharge waste into the drain. Observe strict hygiene. Carry out operations in the open/under local exhaust/ventilation or with respiratory protection. Do not breathe dust, fume. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Limit number of exposed workers. Wear PPE. Floors, walls, and other surfaces in the hazard area must be cleaned regularly. Launder clothing separately. Do not eat, drink, or smoke. Always wash hands after exposure. |
| **Emergency Procedures** | **Eye Contact:** N/A. Rinse eyes with water as a precaution.<br>**Inhalation Exposure:** remove to fresh air and keep comfortable for breathing. Call poison control/doctor if you feel unwell.<br>**Ingestion:** N/A. Rinse mouth.<br>**Skin Contact:** N/A. Wash with plenty of water.<br>**Spills:** N/A |